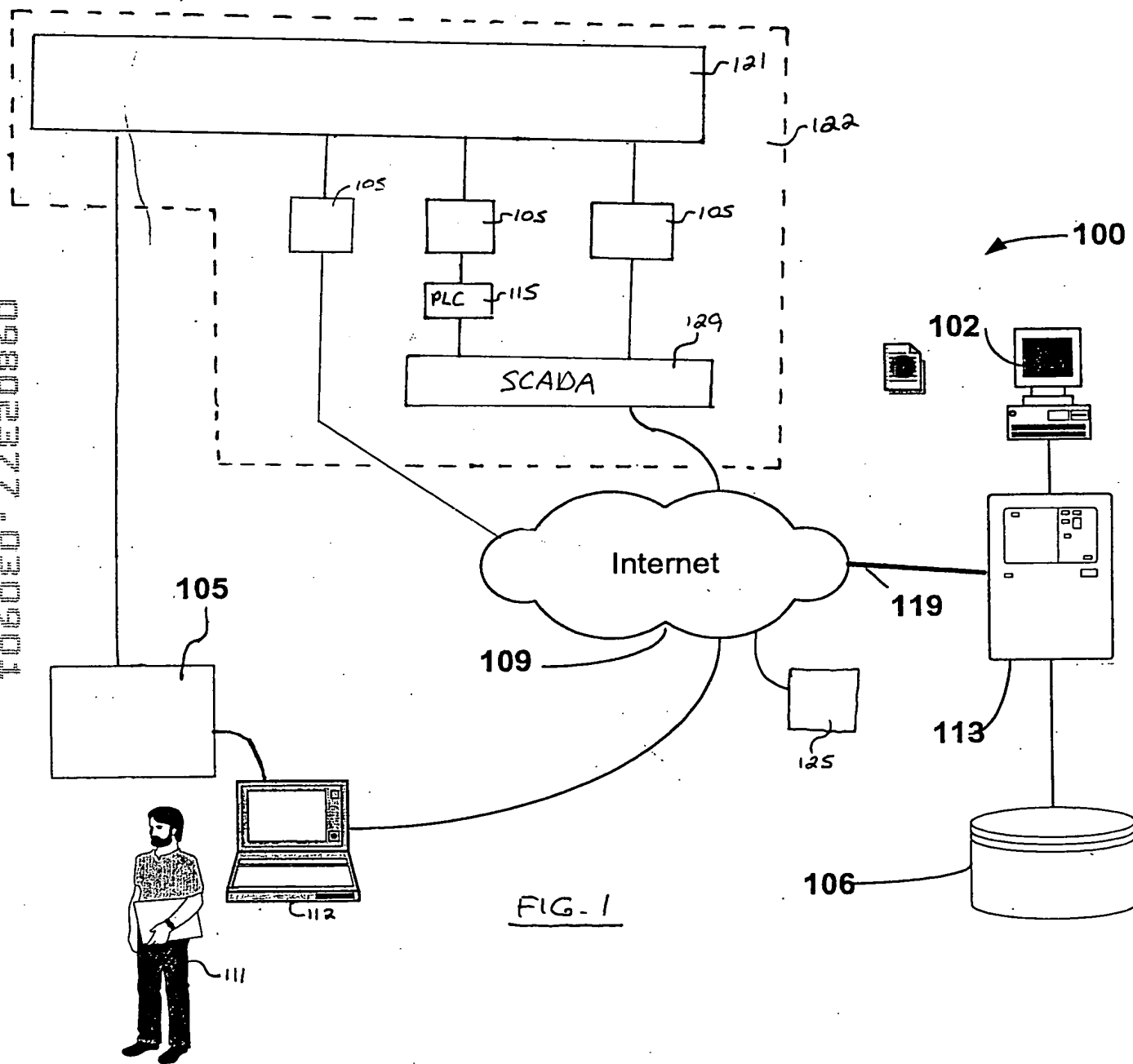
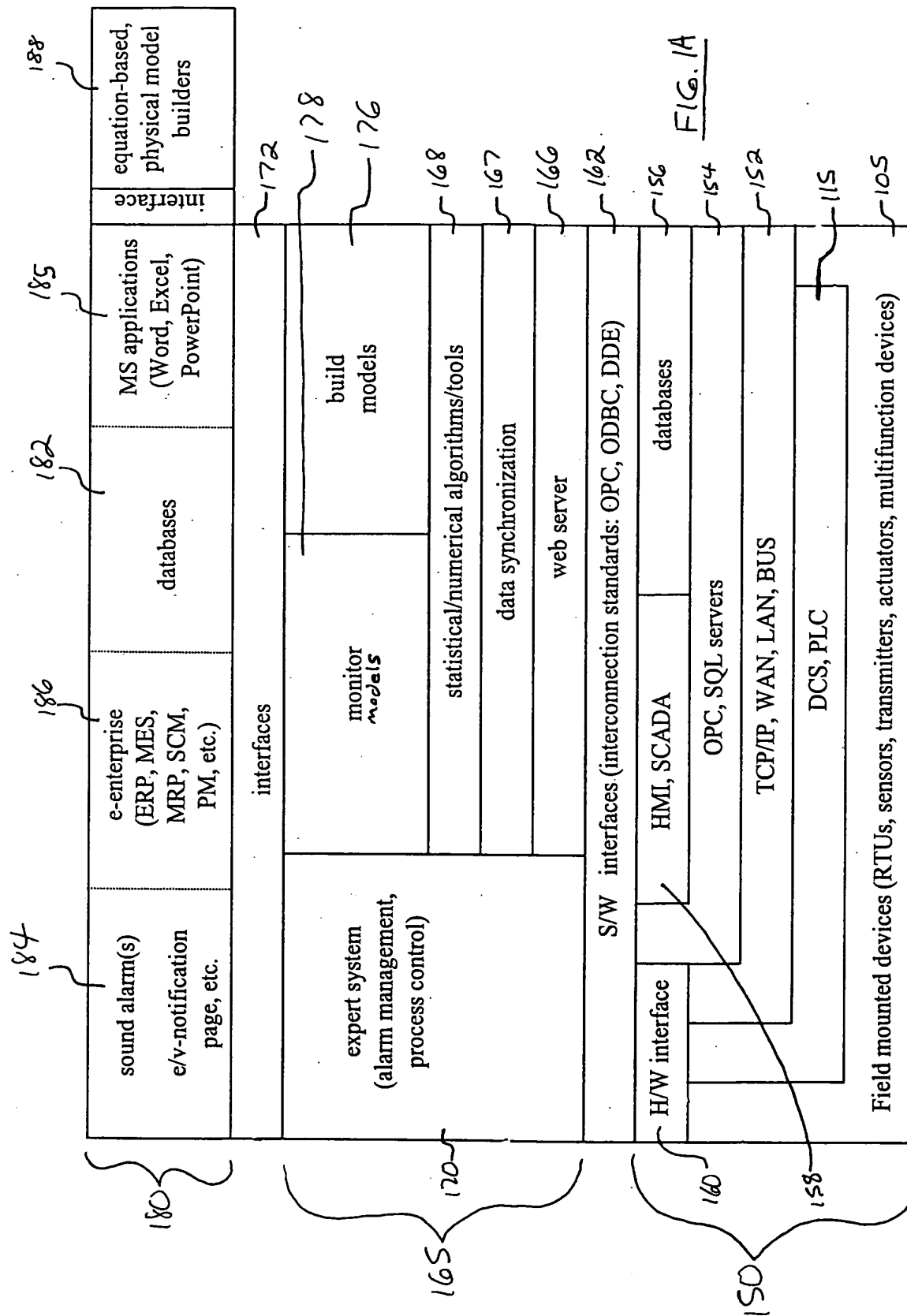


FIG. 1





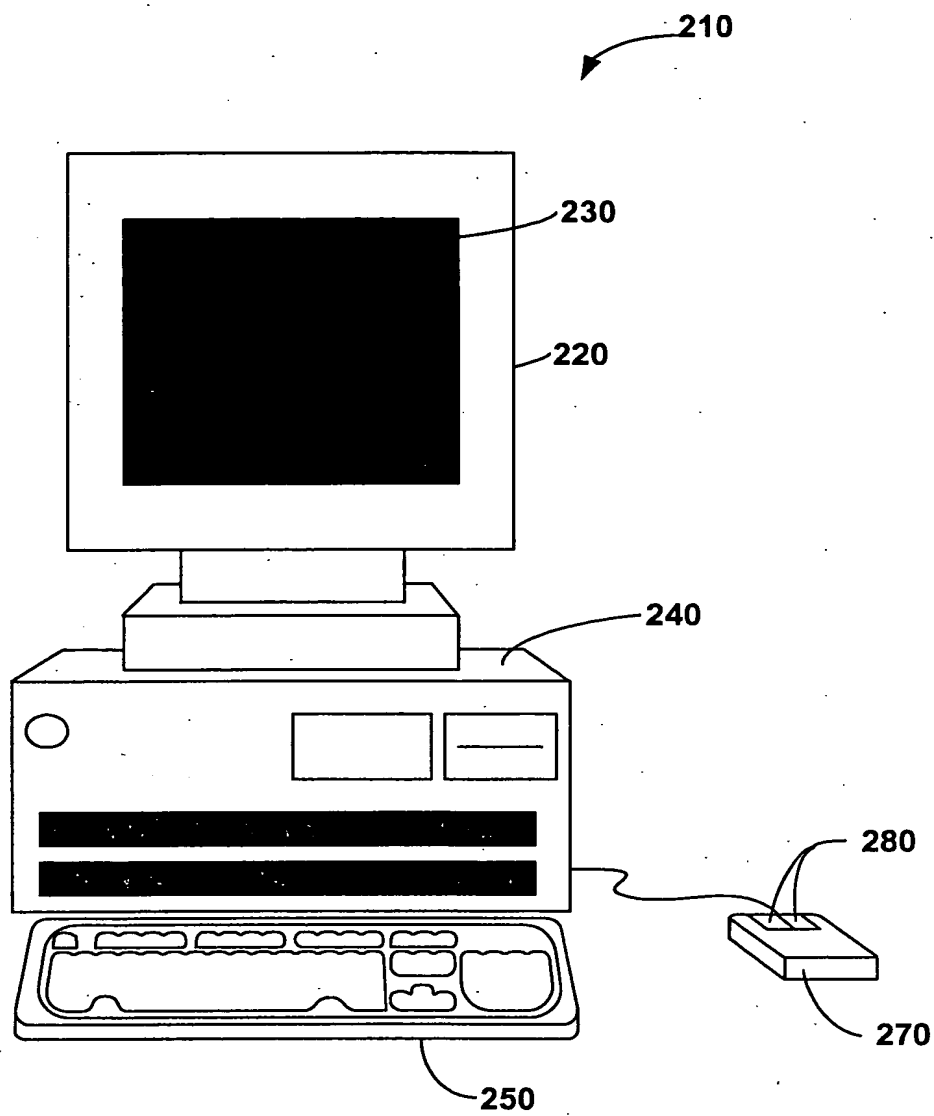


FIG. 2

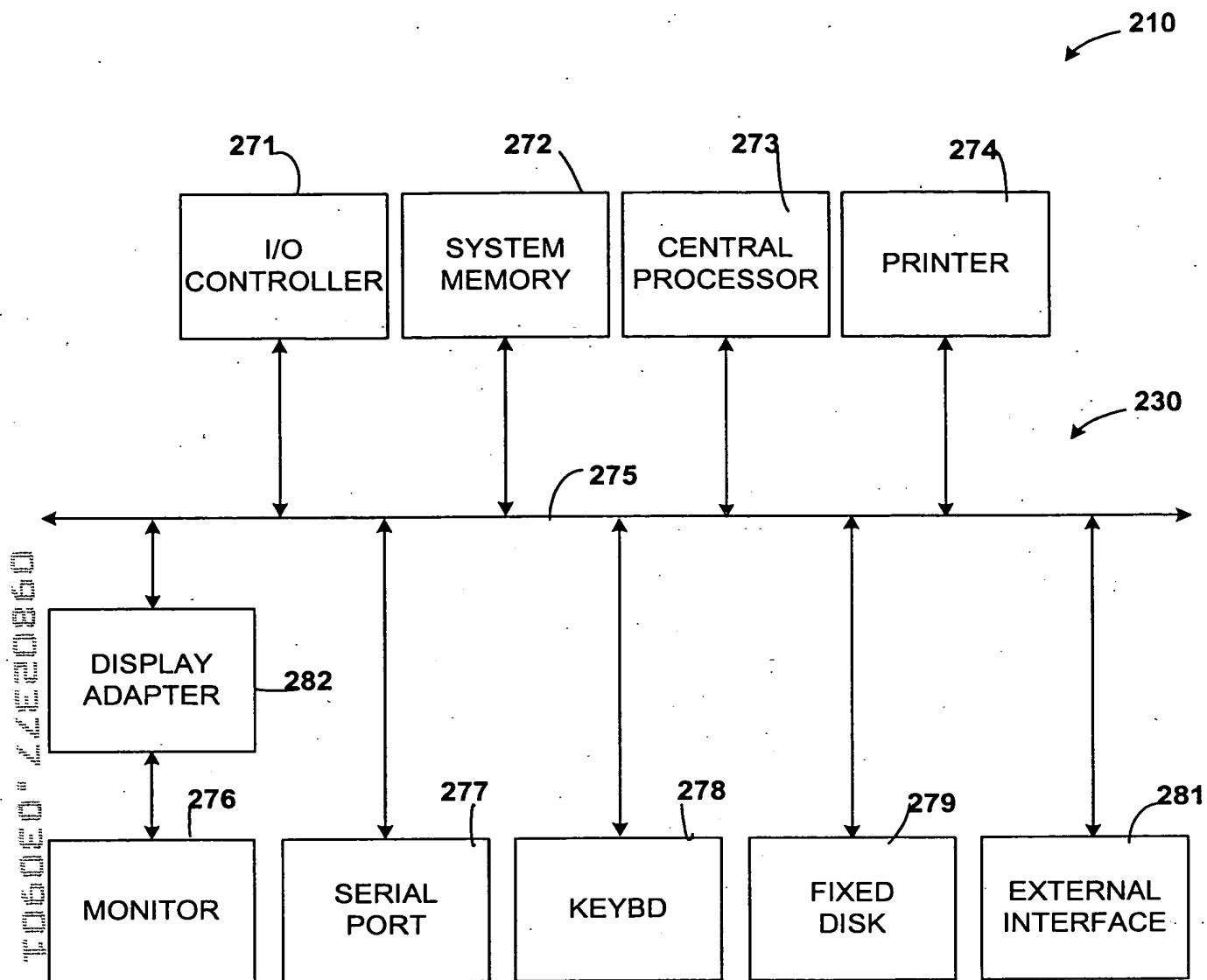


FIG. 2A

FIG. 3

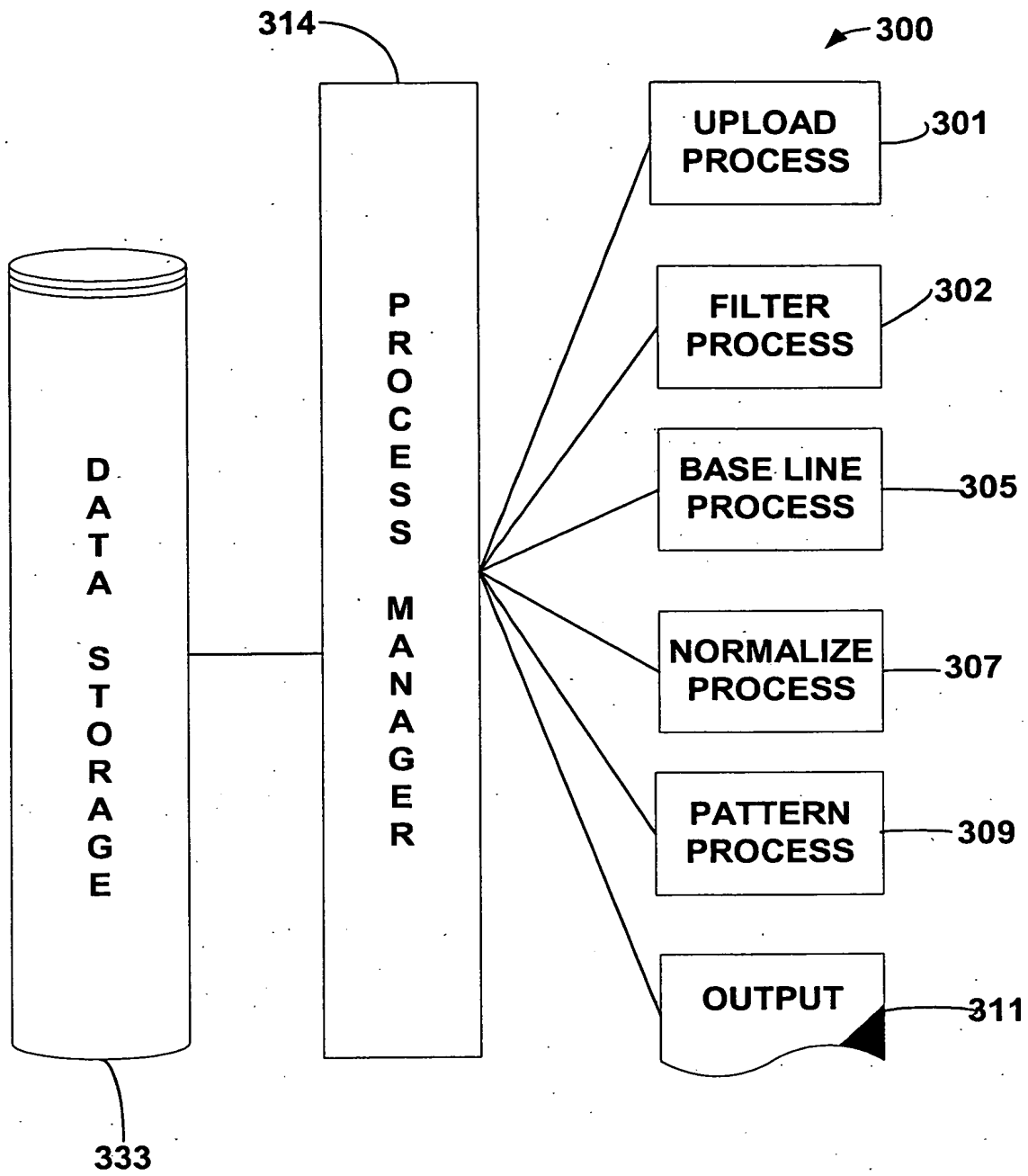


FIG. 3

FIG. 3A

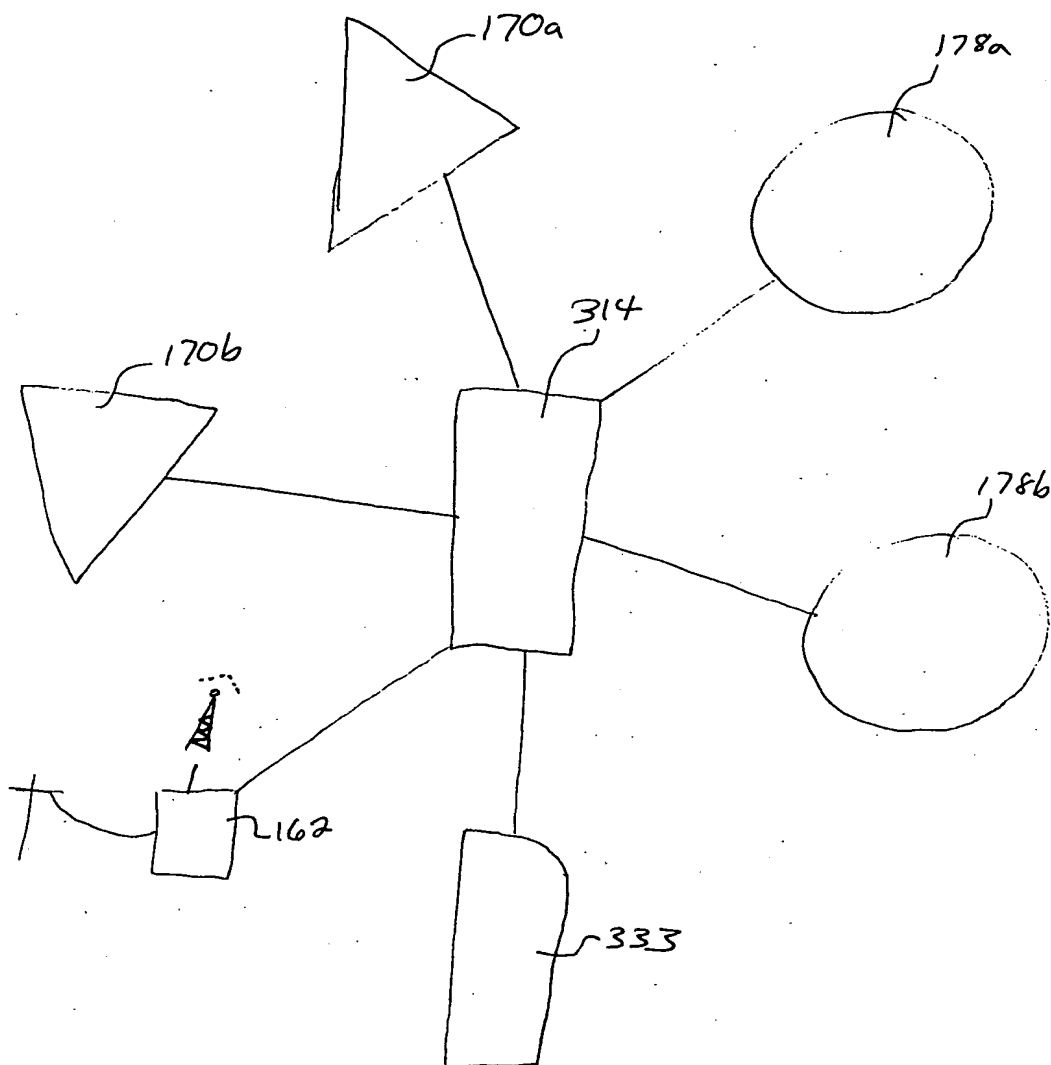


FIG. 3A

FIG. 3B

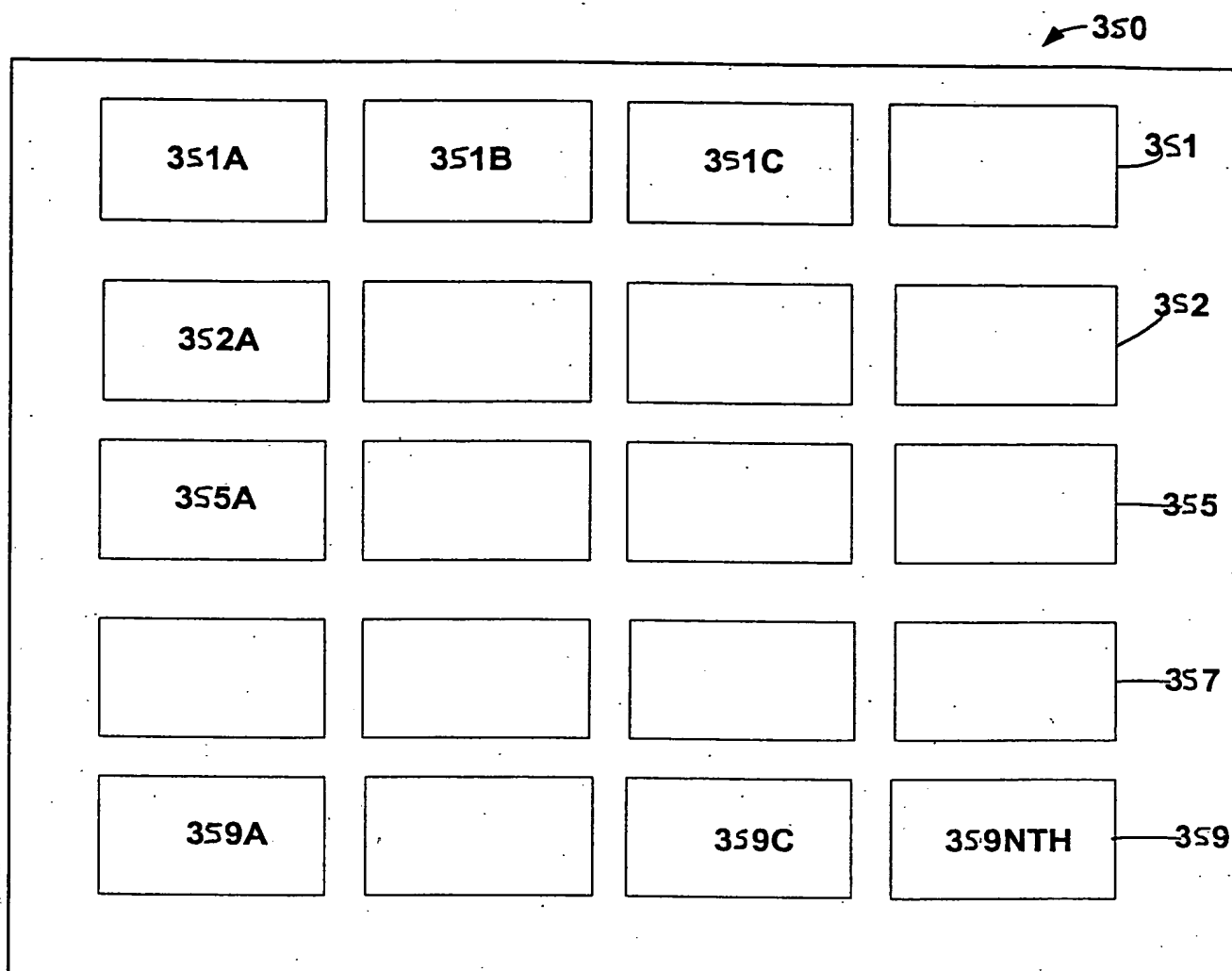


FIG. 3B

400

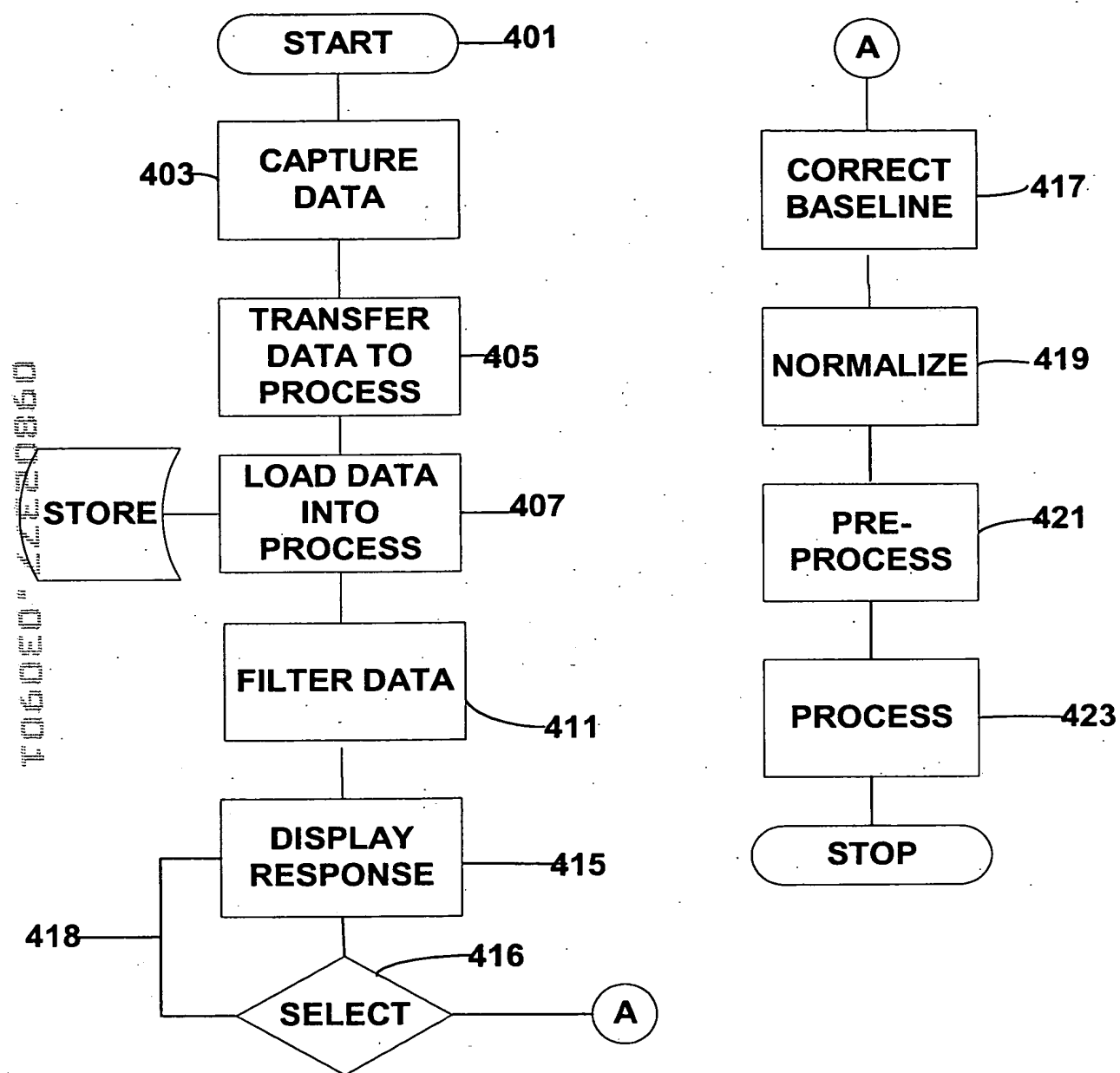


FIG. 4A

TOP SECRET

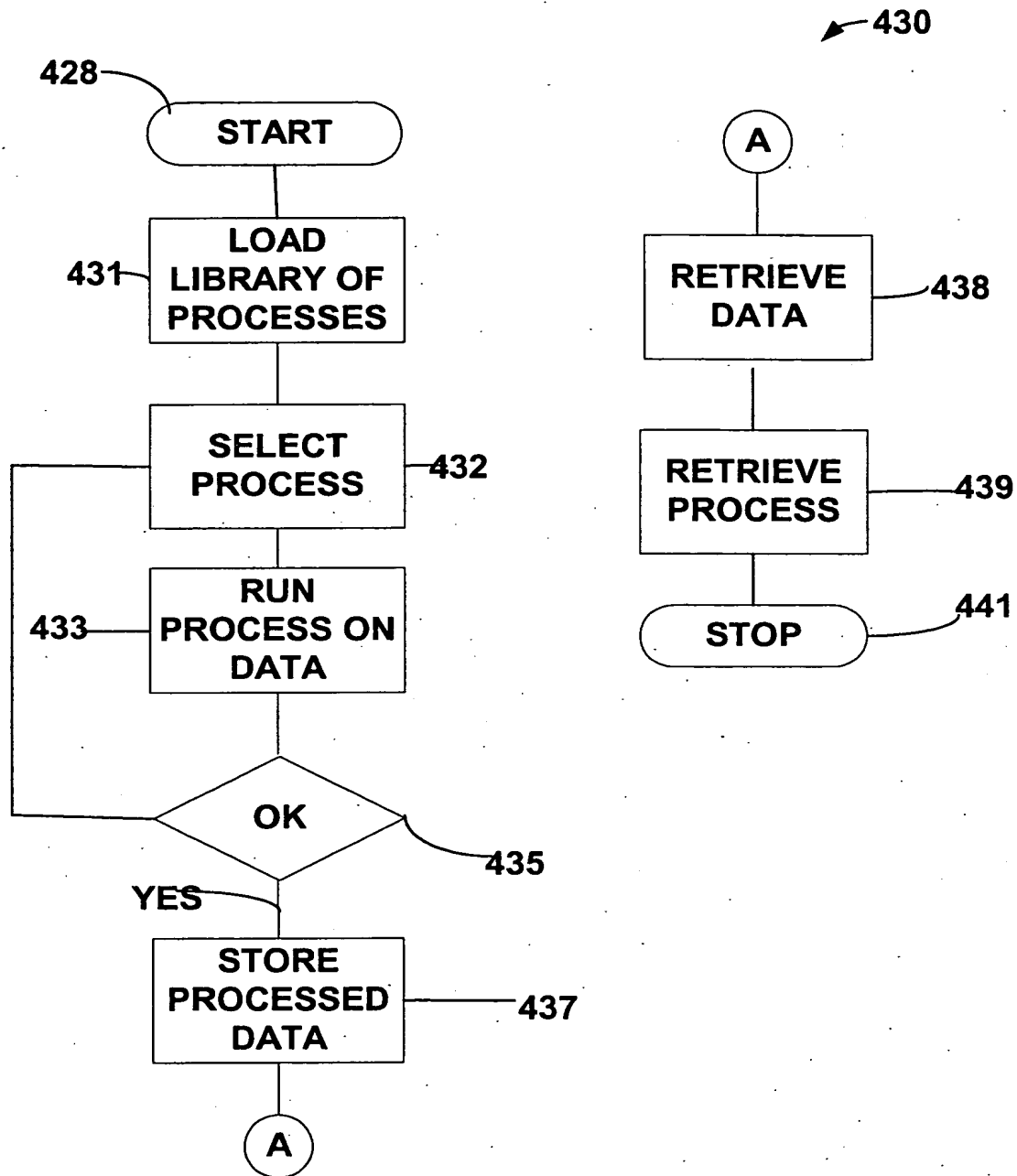


FIG. 4B

FIG. 4D

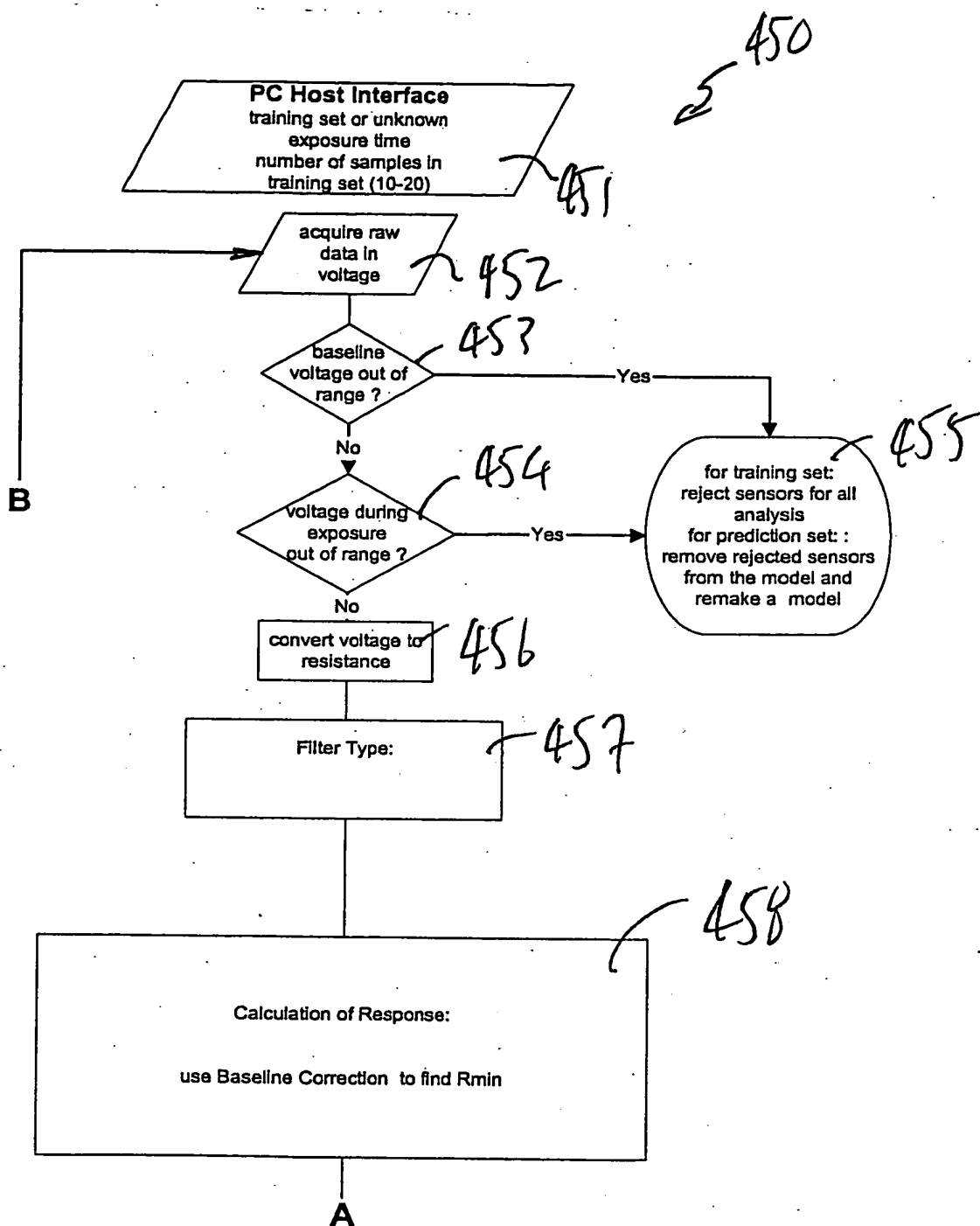


FIG. 4D

```
graph TD
    A((A)) --> D1{Training Set? 459}
    D1 -- Yes --> D2{finished all repeats in all analytes 461}
    D2 -- No --> B((B))
    D2 -- Yes --> D3{Outliers 463}
    D3 --> C[retake samples in the classes with outliers 465]
    C --> B
    D3 -- No --> D4{Importance Index 466}
    D4 -- No --> D5(ignore rejected sensors 473)
    D5 --> D6{Confidence Level < 3 sigma 477}
    D4 -- Yes --> D6
    D6 -- Yes --> E([Make Prediction and report probability 479])
    D6 -- No --> F[Report the name & probability of the closest class 478]
    F --> E
    D6 --> G[calculate 476]
    G --> H[Pattern Recognition use chosen algorithm and final model 475]
    H --> E
    D1 -- unknown --> D4
    D2 -- unknown --> D4
    D3 -- unknown --> D4
    D4 --> I([Final Model 472])
    I --> J{Discrimination 471}
    J -- No --> K[choose algorithm 470]
    K --> L[Pattern Recognition Cross Validation 469]
    L --> M{training set? 468}
    M -- Yes --> L
    M -- unknown --> D5
    M --> N[Postprocess Signals first 1-Norm then Autoscaled 467]
    N --> D6
```

FIG. 4E

FIG. 9a Wave Users

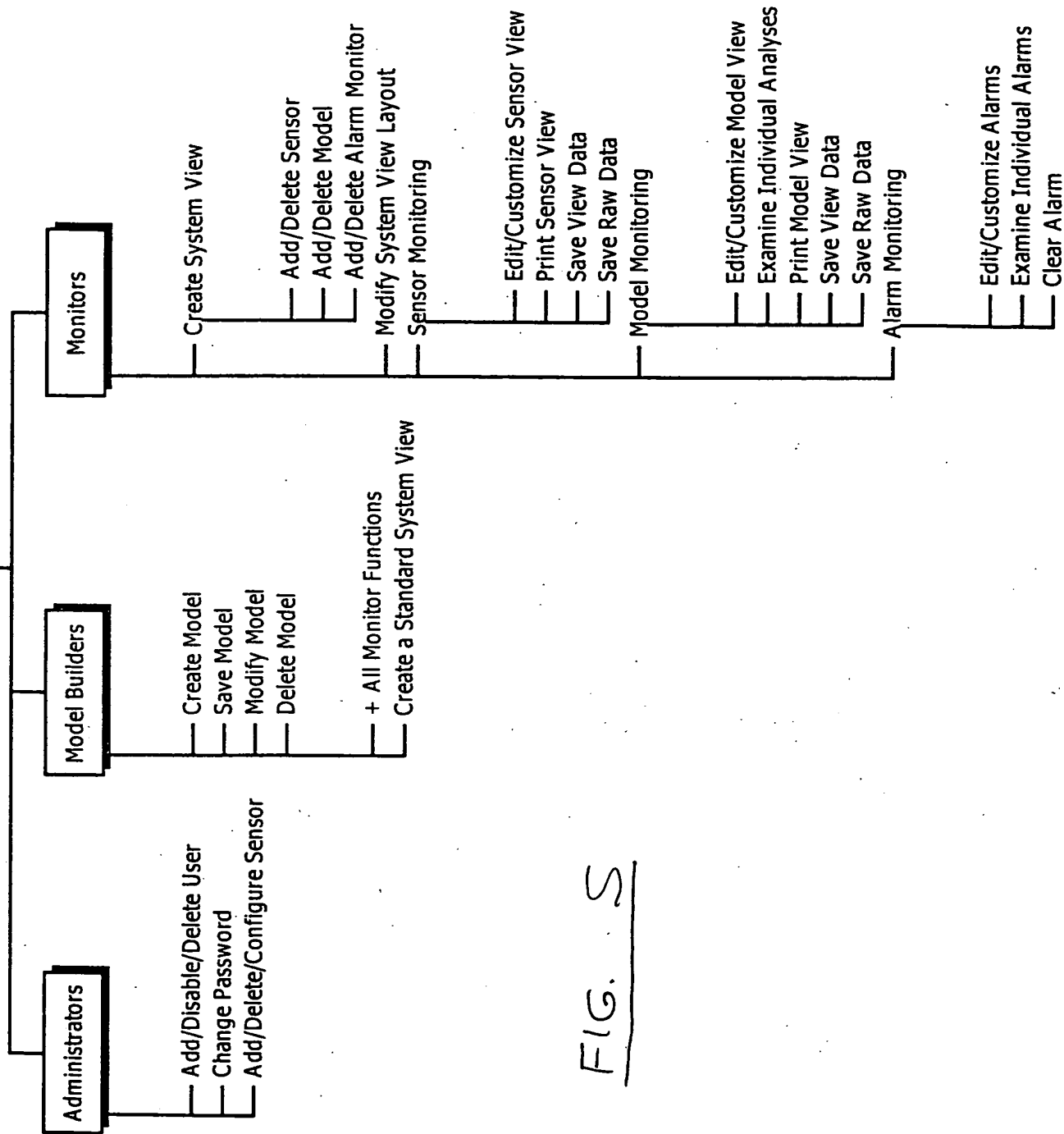


FIG. 9a